DIY COMPOST TEA BREWER

This design uses a low-tech approach to making compost tea equivalent to or better than many more expensive commercial brewers. The tea was evaluated with microscopy and compost treated with this tea showed a mark improvement using Pfeiffer Circular Chromatography (PCC) as well as visual evaluation.

- The “food” provided is in the ratio of two parts each of whole grain oat flour, Bio-Fish or Bio-Live and demerara sugar and one part Azomite or glacial dust.
- Electromagnetic air pump (18-35 watt is recommended)
- The “Inoculant “ is screened compost and worm castings.
- 12 air-stone, Tearthly diffuser and 100-watt heater.
- Bucket with insulation (not included)

Parts Included - heater, air pump, diffuser with air line, and a bag each of microbe food and inoculant.

Tips

- Secure the pump to something that prevents the pump from moving as it vibrates. Ideally a round board the size of the inside of the bucket works nicely for storing the pump back in the bucket when not in use. Some rubber padding may reduce the noise.
- Most pumps come with an air splitter that allows you to do multiple buckets at one time. If yours does not have shut off valves (many are plastic) you can put screws into the unused connections to shut them off. Most metal splitters come with control valves.

- Walmart has the least complex and most reasonably priced five gallon buckets with lids that can easily be removed when used. The building supply buckets are designed for construction or painting use.

- Insulation will increase the efficiency of the small 100 watt heater. Insulated reflective bubble wrap (Reflectix) is ideal, but not necessary if you don't already have it. You don't want the insulation attached to the bucket, rather you want a "sleeve" that can be removed when you are cleaning and drying your equipment.

  You can make your own with several layers of heavy duty foil (found in grocery stores) or a combination of foil and repurposed bubble wrap. Use materials that will not absorb water and can easily be removed for cleaning.

Instructions

- Find a suitable location out of direct sun where you can allow for spills and near electricity. If we are experiencing low night and/or day temperatures a covered or indoor area is preferable.
- Using your insulated bucket fill it 2/3 full with clean water. Extra room will allow for heated water to be added if you need to adjust the water temperature to achieve 75 degrees. Use the thermometer to check temperature.
- Set the heater for 26(C) on the thermostat setting on the top of the heater.
- Do not plug the heater in yet. Drop the diffuser into the bucket and hang the heater (adding a notch in the top of the bucket allows the lid to still sit lightly on top without the heater cord and air-line interfering) into the water so it is fully submerged. Let the heater acclimate for 10-15 minutes before plugging it in. Keep the level of the pump higher than the top of the liquid in the brewer to prevent liquid from getting into the pump during a power failure.

Note-the heater is not intended to heat cold water, it is intended to keep the water warm at a constant temperature. It is thermostatically controlled and should keep the contents in the range of 75-80 degrees. If necessary the heater can be adjusted for temperature.

- Plug the heater and pump in and let the water dechlorinate and fully oxygenate for at least 4 hours (if you do this overnight it will be ready in the morning).
- Mix the food in the plastic bag to evenly redistribute the materials and then add a generous ¼ cup (or 4 semi-heapingTablespoons) to the water and let it mix for 10 minutes to dissolve into the water.
- Add a generous ½ cup (or 8 semi-heaping Tablespoons) of inoculant. If you use your own partially dry it and screen it to reduce coarseness.
- Lightly put the cover on top, but not tightly, to keep the splashing to a minimum. Foaming can occur 12-24 hours later and is a good indication of microbial growth. It can overflow the bucket, so brew your tea in an area where there can be a few spills.
- After 36-48 hours the tea is ready to use. Unplug the heater and air pump and let the heater sit in the tea for 10 minutes to cool off in case it was in the heating mode before removing it. Use your tea within a few hours after removing it from the air.

If you are applying tea to your soil, make sure the soil is warm. Warm tea on cold soil in the early spring is not of much value. Let your tea settle and carefully pour the liquid into the watering can until you get to the sediment on the bottom so it does not plug up the holes. A very good use of compost tea is to water your compost. It is a nice warm environment and will enhance your compost which you then use in your garden.

Remove the bucket from the sleeve and clean the bucket, diffuser and heater with plain water, but do not use soap. The plastic guard on the bottom of the heater comes off, so be careful to not lose it. The air-stones can be cleaned with a soft brush. Use the air pump or a compressor

to blow some air through the diffuser to flush out the water. Also clean the inside of the lid and air or towel dry everything (make sure the insulation sleeve is dry inside as well.